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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,123	11/30/2001	Andre Liem	STL10241	4429

7590 07/27/2004

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT PAPER NUMBER

3729

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,123

Applicant(s)

LIEM ET AL.

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/30/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. The applicant(s) have amended the claims in the response of 4/22/04 such that all of the claims are directed to one, single invention. The previous restriction requirement has been withdrawn. There would be no burdensome search to examine all of the claims of the instant application.

Specification

1. The abstract of the disclosure is objected to because the abstract is directed to the claimed invention, i.e. manufacturing process. Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

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3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Method of Manufacturing a Data Storage Device having a Rail Design for a High Bandwidth Actuator.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, the phrase of “the designed actuator” (line 14) lacks positive antecedent basis.

The same problem in Claim 1 also occurs in Claim 9.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 and 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT

Publication WO 99/09544, referred to hereinafter as WO'544.

WO'544 discloses a method of making a data storage device comprising: determining that an actuator is designed with a spring-mass structure characterized by more than one bending mode, i.e. a first bending mode having a first natural resonant frequency and a second bending mode having a second natural resonant frequency (see top of page 11); modifying an actuator arm 134 by providing a first stiffening element (carbon fiber in anyone of layers 510, 520 or 530) on a first longitudinal edge and providing a second stiffening element (carbon fiber in anyone of layers 540, 550) on a second longitudinal edge of the arm; and assembling a designed actuator or actuator arm into a disk drive adjacent a storage medium (see Figure 2), which meets all of the limitations of the claimed invention.

Regarding Claim(s) 3, 4, 6, 10, 12, 14 and 17, the first and second stiffening elements (carbon fibers) of WO'544 are identical, extend along first and second (side edges) longitudinal edges of the actuator arm, are formed integrally with the arm, and each have a asymmetric cross-section (see Fig. 5A).

Regarding Claim(s) 5, WO'544 shows that the arm 134 is generally planar (in Fig. 5A) and defines a first plane (front or horizontal plane of 134) in which the first stiffening element defines a second plane that can be orthogonal to the first plane by varying the angle through a range of angles of the first stiffening element (see page 11 or 13).

Regarding Claim(s) 11, each carbon fiber of WO'544 can be read as a "rail".

Regarding Claim(s) 9, WO'544 determines the likelihoods of the actuator arm becoming resonant in the first bending mode and the second bending mode through the use of computer modeling (see bottom of page 10 to top of page 11).

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Regarding Claim(s) 15, the step plus function of "a step for tuning...of the arm" (lines 3-5) is read as being equivalent to blocks 610, 620, 630 (in Fig. 6).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'544.

WO'544 discloses the claimed manufacturing method as relied upon above. Regarding Claim(s) 7 and 8, WO'544 teaches substantially all of the limitations of the claimed method except copying the modified prototype to construct a production version of the designed actuator that is similar to the modified prototype. The examiner takes Official Notice that it is well known in the art to copy prototypes to construct a production version of the designed actuator through the use of computer aided design. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of WO'544 by copying the prototype for such conventional benefits of making multiple production versions with a copied prototype.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

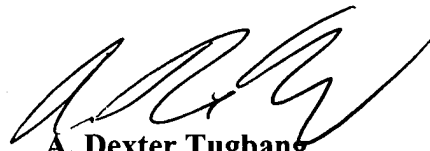
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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599.

The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

July 26, 2004